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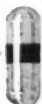
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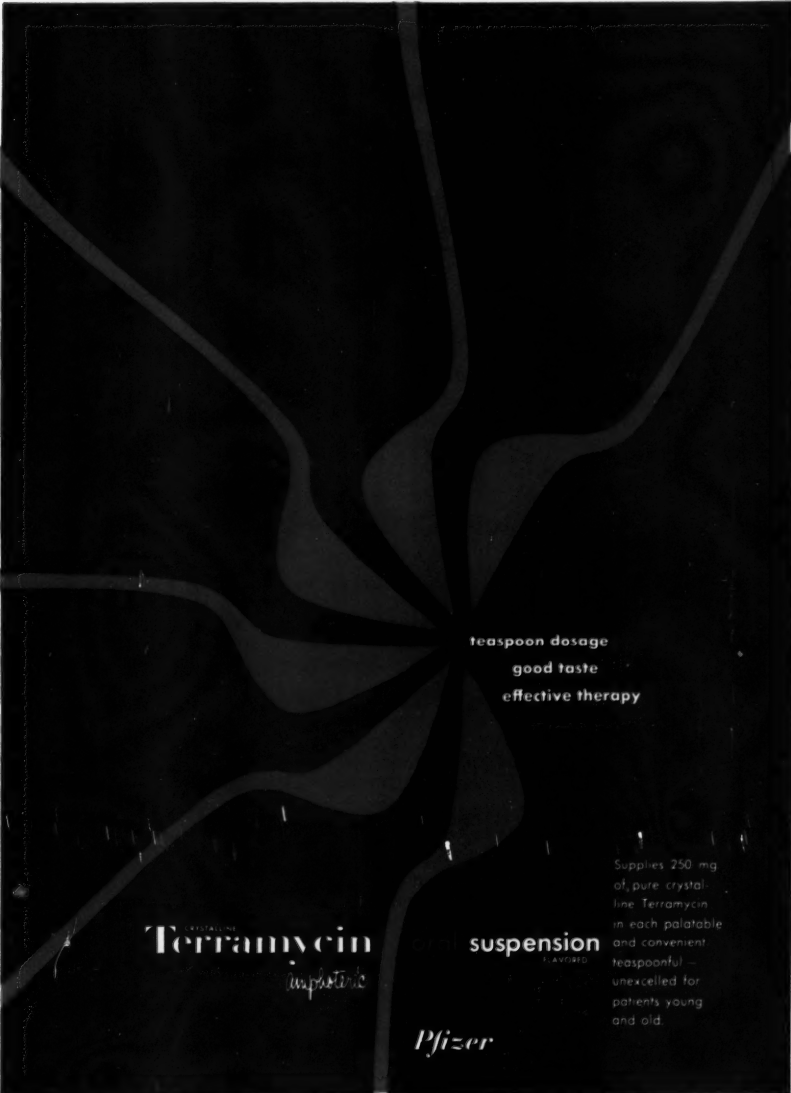
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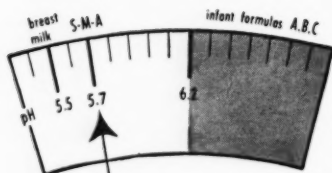


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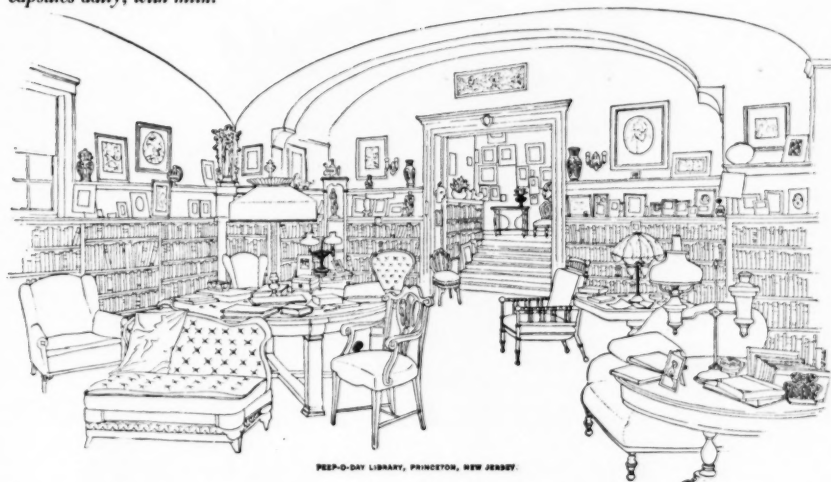
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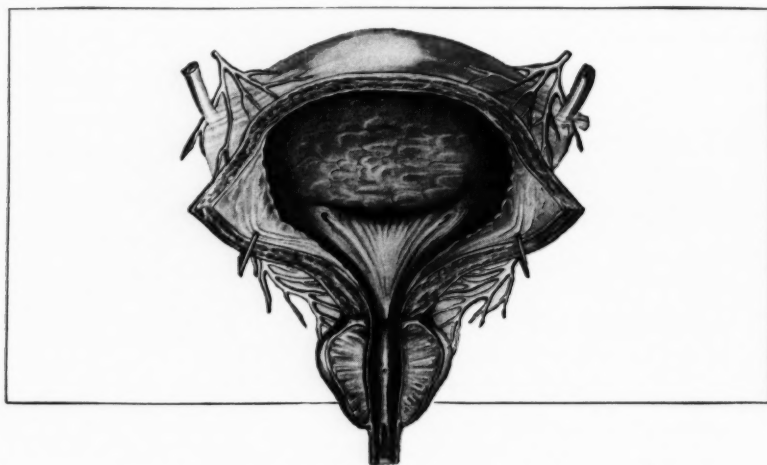
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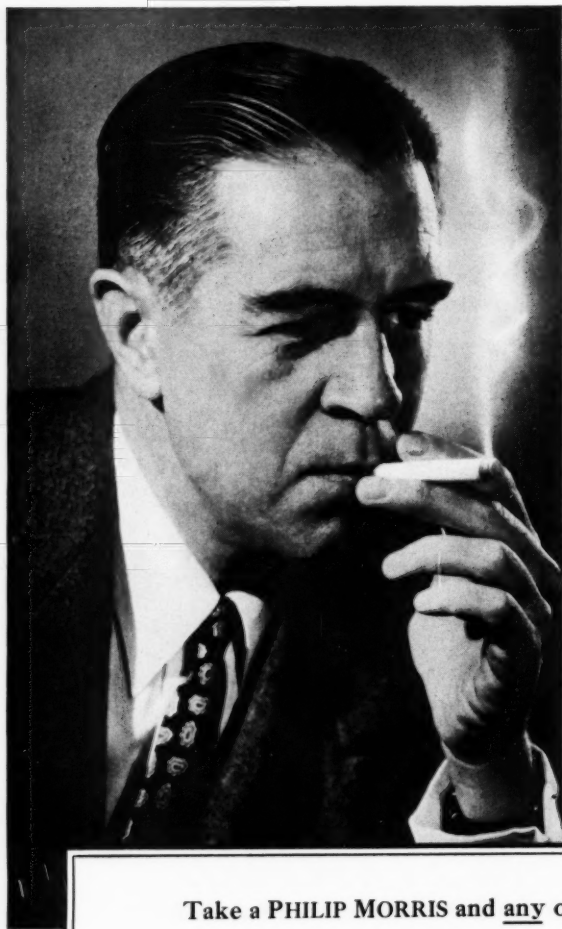
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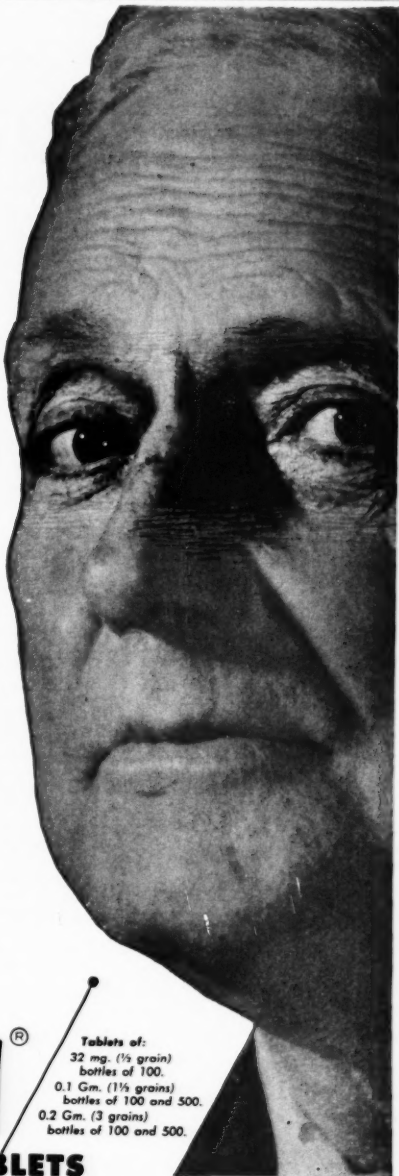
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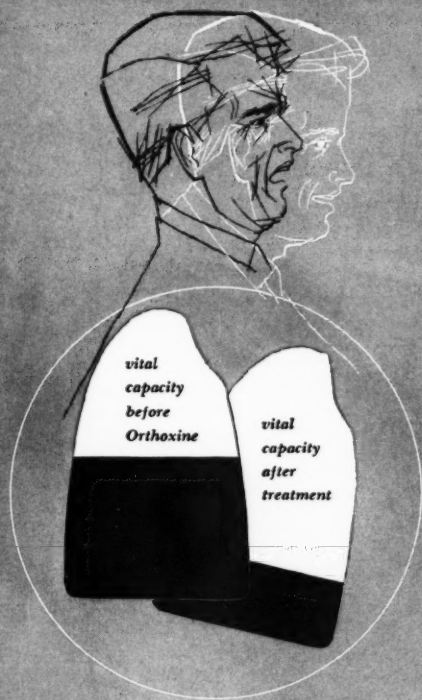


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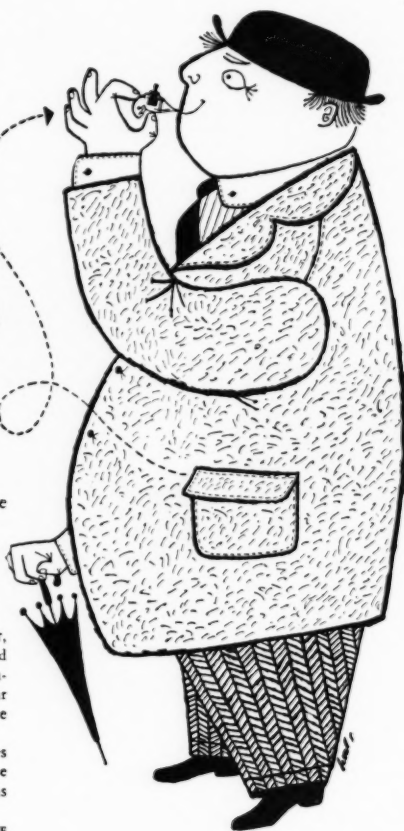
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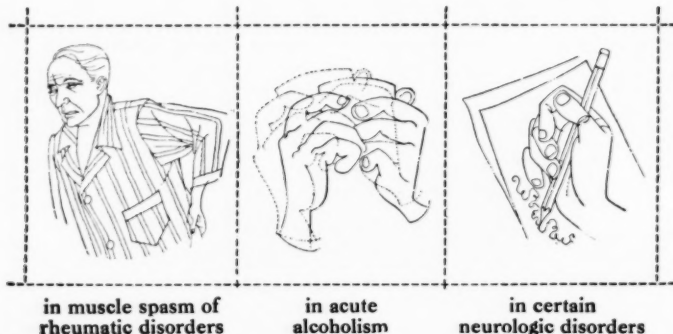
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THERAPEUTIC GOALS IN THE NEPHROTIC SYNDROME*

LEE E. FARR, M. D.**

Upton, N. Y.

With the development of clinical methods for physiological evaluation of disease status there has come into existence an embarrassingly rich store of procedures from which the physician must make a choice. In a disease chronic in nature but subject to a multiplicity of complications, this choice may be not only difficult but of considerable importance to the future welfare of the patient. A few years ago treatment for a nephrotic patient was chiefly expectant together with some dietary supervision. Today this passive approach has frequently been superseded by repeated flurries of active therapy sometimes without any overall plan of attack. It is my belief that better results will be obtained if in each instance the physician will determine his immediate objective together with the criteria which will determine when and if that goal has been attained. This immediate objective should then be reviewed in light of the total treatment plan so that the physician will be prepared for any and all eventualities.

Since edema is usually the manifestation of the disease which drives the patient to seek medical assistance, we may begin our discussion with this topic. Time will not permit any review of the possible causative factors in nephrotic edema beyond the general statement that in these patients there is, among other factors present, a decreased plasma oncotic pressure by virtue of a severe hypoalbuminemia and there is an apparent loss of control limiting the reabsorption of sodium by the kidney tubule. Measures to reduce the edema are aimed usually at increasing the plasma oncotic pressure and increasing the renal excretion of sodium. Is the elimination

of edema per se a necessary prelude to longevity or recovery in these patients? From extensive observation over a number of years it is my belief the answer to this question is no. Categorical proof cannot be adduced to support this statement but clinical observation accompanied by a battery of physiological and biochemical tests strongly suggests that edema per se has no influence on the course of the disease either malevolent or beneficent. This is not to say we should not strive for elimination of edema under certain circumstances but merely that under most conditions failure to remove edema or success in eliminating it is not necessarily a step toward absolute recovery.

When fluid gathers in the chest to an extent that it severely interferes with respiration or embarrasses the heart it must be reduced in this locale for preservation of life. Extensive peripheral edema and ascites on the other hand usually carries no significant threat to life and thus does not always require our first efforts. However, there may be compelling social reasons, nearly as valid, for elimination of edema in a patient. The problem of nursing care may bulk enormous because of massive edema; the patient may be the breadwinner of the family and the continued existence of the family group may be dependent upon his efforts; the preservation of the home may require the patient's active participation in family life, as for the mother; the costs of prolonged hospitalization may be threatening to demolish the economic foundations of the family. All of these reasons may be good and sufficient cause for efforts to eliminate the edema. Whatever the reason for specific therapy, the physician should be aware that thusfar the accepted methods of edema control in general leave the cause of the disease untouched, and although the physical appearance of the patient may have been altered in a most dramatic fashion the problem of recovery from the

**Chairman, Medical Department, Physician-in-Chief, Hospital, Brookhaven National Laboratory.

*Read before the Medical Society of Delaware, Wilmington, October 9, 1952.

disease process remains. This fact has become obscured because with recovery the patient does indeed lose his edema as he loses other evidences of the disease. But the diuresis, far from being the inciting event in starting recovery, is merely one apparent manifestation of recovery and can occur actually under conditions in which a more serious state of the disease may exist following it than before it. One must appreciate this fact or evaluation of his therapeutic efforts may well lead him into disappointments that are unnecessary.

A second area where a wealth of materials is available for therapy is in the control of infection. First we had the sulfa drugs, then penicillin and now a great variety of antibiotic agents stock the shelves of all our pharmacies. Infection to a nephrotic patient is always serious. It may result in death with bacteremia or the immediate complication may resolve only to be followed by a sharp reduction in renal function. Not all antibiotics have the same degree of usefulness in these patients. The dangers of the sulfa drugs, first toward the hemopoietic system and second, toward the kidney are known to all of you and I shall say little about them except that we must be circumspect in their use in these patients. Penicillin in its almost complete absence of toxic effects stands alone among the antibiotics. It can be used with safety at all times and for all dosages. Penicillin, however, has a restricted bacterial spectrum and today many of the organisms causing infection are of a species not susceptible to penicillin so other antibiotics must be used. Aureomycin affects a wide range of organisms but aureomycin frequently causes nausea, vomiting and diarrhea. These manifestations of toxicity of the drug for the gastro-intestinal tract may result in severe complications for a precariously balanced patient with the nephrotic syndrome. Vomiting and diarrhea are frequently dreaded visitors to the nephrotic individual and by themselves may cause such severe imbalance as to result in death. Streptomycin may cause a sharp reduction in renal function, a property I have not seen in the other antibiotics. Despite certain contra indications situations may arise when a calculated risk is necessary and ad-

visable. When such is the case the physician must shoulder his responsibility and so direct the management of his patient that warnings of untoward effects will be immediately apparent to him. Fifteen years ago the more serious of these complicating infections were nearly always caused by the pneumococcus. During the past five years pneumococcal infections have become a rarity in my clinic while infections due to *E. Coli*, *Proteus vulgaris* and similar organisms have increased correspondingly. This means that a variety of antibiotic agents must be kept at hand ready for use at all times to secure the most effective result in the shortest possible time.

The spectre of starvation is a constant companion of the nephrotic patient. These individuals are depleted in body protein, capricious in appetite, afflicted with repeated nausea and in some instances vomiting. Efforts to restore plasma and body proteins to normal by feeding high protein or high carbohydrate diets have been consistently unsuccessful. Arbitrary changes in the diet designed to furnish a presumed better mixture to the patient are usually followed by loss of appetite and extensive food refusals. It is more important to maintain the caloric intake of the patient than to maintain any given distribution of foodstuffs between protein, carbohydrate and fat. When the psychological desire for food can be stimulated, the patient will as a rule take a satisfactorily distributed diet and the maintenance of caloric equilibrium is more easily attained. Force feeding of any kind will not force synthesis of cell protein and may by exacerbation of nausea lead to the reverse. Our dietary goal then should be to maintain caloric equilibrium by feeding natural foods with a rich and variegated vitamin supplement and to meet insofar as possible food whims, dislikes and cravings of the patient.

The psyche of the patient must not be overlooked. He must be given all possible help in adjusting his life to the limitations imposed by his disease and he must be assisted continually in developing a way of living which is compounded of a reasonable hope for the future with a recognition of the present limits of therapeutic effectiveness. This maintenance of a will to live must be encouraged in-

dividually and the successful approach will be as varied as the personalities of the patients involved and their families. Within this limited framework a great deal can be accomplished.

To me the most important and the one overriding requirement in the treatment of the disease is a maintenance of satisfactory kidney function at all times. Although there are many situations in which the capacity of the kidney to respond rapidly to the therapeutic assistance is markedly limited, this should not serve as an excuse for not carrying out supportive therapy, as in some instances evaluation of the situation may be faulty and intensive supportive therapy may permit a patient another opportunity for recovery or for satisfactory prolongation of life. Except in the most desperate of self limited complications, all therapy should be interdicted which may have a deleterious effect on the kidney. This does not mean that one cannot use a treatment such as a very low protein diet which may be accompanied by a lower level of kidney function because of decreased demands, yet it does mean that maintenance of kidney function at its maximum capacity is not always the best course to follow even when renal function is reduced. When severe acidosis develops it should be vigorously combatted and every effort should be made to prevent excessive reduction in blood carbon dioxide content. Some measure of renal function must be carried out at intervals to permit evaluation of the regimen on which the patient has been placed. I have found the urea clearance test the most useful procedure for this purpose. Any clearance test may, of course, be used but technically the inulin, para-amino hippurate and similar clearances are much more difficult and expensive than is the urea clearance test. Observations of the urinary sediment, urinary protein and urinary specific gravity corrected for proteinuria, are useful adjuncts but cannot serve the same purpose as clearance tests repeated over intervals of time.

Some of the more popular present treatments I have not yet discussed because they do not fall into a single category of disease control. The administration of concentrated plasma or salt poor albumin is such a treat-

ment. When this therapy is carried out we are endeavoring at one time to increase the plasma oncotic pressure, relieve edema and provide a measure of protein nutrition. In an extensive series of cooperative observations with the American Red Cross at the end of the war it was our finding in common with all participants that administration of salt poor albumin in adequate amounts results in a significant diuresis in one out of two tries statistically. That is, in any series of patients so treated about one half of the patients will diurese after a single course of albumin, and following repeated administration of albumin to a single patient a diuresis will occur in about half the courses. There is no evidence that this procedure in any way provoked a recovery in patients so treated and it is my belief that in our patients so treated there may have occurred at least transitory setbacks toward ultimate recovery even though symptomatic relief was obtained. The excessive proteinuria resulting from this treatment is, I believe, potentially harmful, though in each patient certain, as yet unknown, conditions are necessary to permit this to become evident. The gradual abandonment of this treatment is further testimony to its effectiveness in establishing permanent improvement. When, however, one is confronted with a marked reduction in blood volume, administration of plasma or albumin may be an important first step in overcoming this deficiency until whole blood is available.

During the past three years there has accumulated a good deal of data on the effects of ACTH when given to nephrotic patients. The one effect which has been repeatedly emphasized has been the loss of edema. The incidence of diuresis following ACTH administration appears to be greater than that which followed salt poor albumin administration. Following one course of ACTH the incidence of diuresis has been placed as high as 82 percent of patients by Rapoport, Barnett and co-workers. Riley in an equally carefully studied group had just under 2/3 of his patients respond with a diuresis. The effects of ACTH on renal function have not been clearly established. Some studies suggest an increase in renal clearances following diuresis whereas others show no significant change. It

is obvious that no single response in renal function follows ACTH administration. There is likewise a variety of data on the effects of ACTH on the level of the plasma proteins. In several series of patients apparent recovery has occurred in some few while others have continued downhill to death. Sufficient time has not elapsed since the work with ACTH began for a real evaluation of its place in the therapy of the nephrotic syndrome. Most reports have emphasized its diuretic effects but even in the more optimistic of these the incidence of edema free patients is not larger than we have obtained using the more classical dietary procedures but requiring somewhat greater time intervals to effect the therapeutic result. Again, recovery statistics from ACTH treated patients are not significantly greater at this time than has been our experience over the same time interval in patients not receiving ACTH. The drama of diuresis must not be permitted to obscure the statistics on final recovery which is always our ultimate goal. While it appears ACTH may be useful in treating the disease in some circumstances, we should endeavor, whenever it is used, to make such observations on its effects as will help to clarify the indications for its use.

In the treatment of the nephrotic syndrome our ultimate therapeutic goal should be complete recovery; it can and does occur. When a patient comes under therapy all efforts should be made to protect the kidney against further insult, to aid and abet its recovery in every way. We should strive to reach caloric equilibrium and to maintain it, that the patient's nutrition may be improved. We should protect the patient against the effects of infection to the best of our abilities. We should encourage the patient in his struggle to recover. When indicated for specific reasons we should remove edema or endeavor to cause a diuresis. The reason for each procedure in treatment should be clear, so that reaching a limited goal will not bemuse us to the extent of failing to achieve the ultimate goal of recovery.

DISCUSSION

DR. R. W. FRELICK, Wilmington: I think that it is most appropriate for Dr. Farr to suggest a re-evaluation of our basic goals in

treating nephrosis. However, some of his statements raise some interesting considerations. I wonder if there is not some of the same type of problem found in the approach to this disease as there is in diabetes, where some feel that blood sugar levels are of relatively little importance in treating the patients. Apparently the final answer is not available in either case, although it seems to me that the closer a patient can be kept to the normal state, the better off he is, whether it is in the treatment of diabetes or nephrosis.

I wonder, if as Dr. Farr infers in his statement, the edema per se has no influence on the course of the disease, whether this means that the well-being of the patient is not improved when he is edema-free—not only in terms of his subjective feeling, but in his nutritional status and blood chemistries? Isn't the edema associated with a disturbed metabolic state, impaired intestinal protein absorption, as well as to quality and volume of the extracellular fluid?

Metcalf, Kelsey and Janeway suggest that there is an improved glomerular filtration rate and increased effective tubular mass in patients made edema-free, either as a result of spontaneous diuresis, or the use of ACTH. Are these above factors not therapeutic goals?

Since Dr. Farr has raised the question of the underlying disease process in the nephrotic state, I wonder if he would be willing to elaborate further about his idea of its etiology. Is it of immunogenic origin? If so, may not ACTH serve some effect on the underlying process and therefore be worthwhile to use?

Is there any place for the use of HN⁺ in the disease—probably based on interference with basic immunological reactions?

Finally, while Dr. Farr is apparently not particularly concerned with reducing the edema, per se, it would, nevertheless be interesting to hear him comment about the results Fox has obtained with the use of his sodium and potassium solutions in this disease.

DR. E. F. FANTAZIER, Wilmington: I wish to thank Dr. Farr for a most interesting discussion of a perplexing problem.

Again I wish to emphasize the general care

of these patients to maintain their general well being.

With the advent of ACTH, I think it brings up a number of interesting problems. I guess the answers to the use of ACTH are not known yet, but it is my understanding when children are treated with ACTH and ACTH is withdrawn after five or six days, there is quite a diuresis in the average patient treated, and also during this time that there is a hypoadrenal function. In other words, all aspects of the adrenal are suppressed, maybe likening this to what you find in the newborn, where there is diuresis and loss of weight in the first few days and again there is hypofunction of the adrenal.

I would like Dr. Farr to comment on the hormonal etiology of this disease, again as to the general edema loss on these patients, how the ACTH affects the hormones, and whether there is such great disturbance of the potassium and sodium balance.

DR. L. B. FLINN, Wilmington: I am sure Dr. Farr is going to need a little extra time to answer all the questions already put to him.

We remember so well Dr. Farr's aid to us during the years he spent here in Wilmington at the duPont Institute, particularly with regard to his help and advice on this very subject and in caring for patients which were here during his sojourn at the Institute. He has always been helpful, he has always been stimulating, and he has talked to many, many groups here in Wilmington.

He has emphasized the necessity for individualizing all of these cases, which is true in so many diseases—so many metabolic diseases—and too frequently that fact is lost sight of.

The change in varying types of treatment over the years I will not recite, except to say that a lot has happened since cases were treated some years ago with the then orthodox methods to the ACTH technique during the recent times. Perhaps some of the recent cases now recover because the antibiotics of today allow such patients to live long enough to have a spontaneous remission. The certain trends in the present-day treatment and in the experimental field have interested us, particularly lately.

It has long been a question as to whether

this disease is due to kidney trouble or due to some general metabolic condition. No one knows definitely, even now. Many individuals have given thyroid extract, which may or may not be of value.

Recently, as has been suggested here this afternoon, the electrolytic situation has attracted attention, particularly in regard to the sodium situation.

Dr. Fox, as you know, raised the question that maybe the sodium chloride space isn't where it was previously supposed to have been. Maybe there is chloride in the cell, in place of some of the sodium. Maybe these patients really need sodium, although most of them heretofore have been kept on a low sodium chloride diet and in therapy.

Dr. Farr has found from the radioactive sodium investigation that there is a reduction in the intracellular sodium. Giving such individuals sodium seems to be advantageous and, curiously enough, to produce diuresis. And, frequently, not always, when such a thorough diuresis is produced, something seems to happen—perhaps other than in the kidneys—but through the whole body mechanism whereby the individual may have a long remission or maybe a permanent one.

ACTH does apparently do something besides raising the level of the renal cortical action in these cases.

Dr. Farr has pointed out that certainly not all cases of nephrotics can be considered as being, or the trouble as being, due solely to a hypoactivity of the adrenal cortex. Nevertheless, there is a diuresis in many such cases and ACTH retains sodium. Maybe I will ask Dr. Farr, does the sodium which is retained from the ACTH go back to the cell, release chloride, perhaps, and thereby a diuresis of sodium chloride?

However, whatever the mechanism, it has been of great interest. The cases reported by Dr. Fox and more recently by Porter, Farr, Neubauer and others, of a number of patients treated by mouth with sodium and potassium acetate have diuresed, and along with it, clinically, have become markedly improved, not, as far as I can ascertain, in every case, but in a surprisingly large number of cases.

DR. H. H. STROUD, Wilmington: Since ob-

servers for many years noticed remission frequently followed infection—measles, dengue, and so on and because measles has been induced in patients, with varying results—some good—I wonder if Dr. Farr feels that measles or dengue or some other short disease is ever worth while in the treatment of the disease?

DR. FARR: I am afraid if I tried to answer all these questions in detail we would be here for a considerable length of time. However, I will do the best I can to give a brief comment on the interesting and complex problems which have been raised.

First, in regard to decreases in renal function following depletion of total body sodium, it was shown by McCance and his associates about 20 years ago that normal individuals severely depleted in body sodium stores exhibited a decrease in urea clearance. In nephrotic patients also depleted of sodium by vomiting, diarrhea and similar mechanisms, there appears to occur a reduction in extra-cellular fluid volume and a reduction in sodium concentration in this fluid. Under these conditions a reduction in urea clearance is found in association with the electrolyte disturbance. Therapy with sodium to restore the normal electrolyte relations finds the kidney responding with alacrity to resume that level of function noted prior to the disturbance. This is a general phenomenon in which nephrotic patients participate.

However, in the nephrotic patient there are special conditions which may make these relationships obscure. There is the presence of edema which may still be present despite exaggerated hypo-osmolality of a degree similar to that which would be observed in more normal individuals if the salt loss were not usually accomplished acutely through the mechanism of water loss.

In the nephrotic patient it is frequently observed that the serum sodium may be reduced below the usual normal figure. Administration of sodium when this is the case and not acute sodium depletion, does not result in an increase in sodium concentration, but merely an increase in edema.

Recently, through the use of radioactive sodium, we have observed that in these patients it is possible to have a depletion of

presumably intracellular sodium without reduction of sodium concentration in extracellular fluid and without reduction in extracellular fluid volume. When this presumed depletion of intracellular sodium progresses to a point where cell sodium is very, very low, there occur somatic changes in the patient. He complains of severe cramplike pains; localized tetany is frequent; convulsions may occur; acidosis becomes extensive and renal function falls precipitously to very low values of the urea clearance—3 to 4 percent normal. Administration of sodium in large amounts causes a reversal of these changes without increase in body weight. The urea clearance over a period of weeks returns to its previous value. This seems to be a different type of sodium depletion than the one described above and is still in the process of elucidation at Brookhaven by Dr. James L. Gamble, Jr.

Second, in regard to using high or low protein diets, I can give no definitive rules. Following experimental studies, we have thought from time to time that precise dietary parameters could be described but in each instance further experience has demonstrated that the description was inadequate.

In general, it is my belief that it is more important to keep the patient eating than to delimit what he may eat. That is, in the long run, caloric equilibrium is the most important dietary goal. It has been repeatedly demonstrated that a high protein intake alone will not force synthesis of tissue and plasma protein. During the past few years, haltingly, uncertainly, and with great caution we have also obtained surprising evidence that even under very low protein intakes with a constant number of calories, depletion of body protein does not continue to an unlimited degree, but that nitrogen equilibrium is attained. Patients on very low protein intakes—four to six grams a day for a four year old child—show apathy and listlessness to an extreme degree but plasma proteins remain constant and renal function may slow or stop in its relentless downhill course.

Again, the most important fact which seems to be emerging from these observations is that consistency and constancy of intake are the factors to watch most closely.

I have touched on the question of dietary protein and its influence on the damaged kidney. In some patients in whom there is a consistent downhill course in renal function over a period of months, we have changed their diet to a low protein intake in an effort to conserve the kidney. This procedure stems from experimental work which has demonstrated that in high protein intakes, animals with severely damaged kidneys will suffer progressive destruction of the remaining renal parenchyma and that similarly prepared animals placed on low protein intakes recover in a high percentage of instances. If kidney function can be preserved, it is easy later to restore the nutrition to a normal status.

On the other hand, maintenance of nutrition without preservation of renal function is valueless. Six months on a low protein intake will give an adequate rest to the kidney and if the procedure will be effective, results should be evident within this period.

I did not mention exposure of these patients to diseases such as measles and dengue partly because of time and partly because of inability at this moment to evaluate these procedures fully. Since in the general management of these patients, a great deal of effort is expended in attempts to protect them from infection it is only reasonable to demand clearcut indications as to the values and hazards of such procedures before willfully exposing these patients to an infectious disease.

Nitrogen mustard has been used by Corcoran and his associates at the Cleveland Clinic and by Chassis, Golding and their associates at Bellevue. Nitrogen mustard is a very toxic compound and must be used with great skill to avoid hazardous complications. Functional studies on patients so treated have revealed improvements in clearances and maximal tubular excretory capacity following nitrogen mustard therapy, but a great deal more information is necessary before it can be used as general therapy. The results to date have been suggestively encouraging and where means are at hand for careful observation and control of patients, nitrogen mustard should be one compound to consider for use.

Adrenocorticotropin (ACTH) may be a useful adjunct in the treatment of this disease. The elimination of edema at times is a necessity and at times is a desirability in the management of a patient. To achieve this specific goal ACTH may be of worth. I hold no brief for maintaining a patient in the edematous state; I do, however, emphasize the point that no clearcut relation has been demonstrated between persistent edema and increasing renal failure and, however gratifying elimination of swelling may be, it is not usually a step which is life-saving. Freeing of a patient from the burden of edema is no guarantee of recovery, nor is it a step which permits any relaxation in efforts to aid the patient to a spontaneous recovery.

Although sodium potassium and water may be distributed in unusual fashions in these patients and although we have been endeavoring to study the distribution of these substances in nephrotic patients, we have not yet obtained evidence for a disturbance in potassium distribution such as was suggested by our sodium data. The potassium disturbance may well exist for we know sodium cannot be removed from body fluid without a host of changes following in the electrolyte and water composition. Electrolytes must be considered as a whole, although we may study them separately because it is technically necessary so to do.

The administration of alkalinizing salts as recently advocated by Fox stems largely from Osman's papers in 1927. It is my understanding of Fox's papers that a condition of acidosis is indication for such treatment. I have seldom observed acidosis in the absence of renal failure or other obvious cause for the imbalance and have not administered sodium and potassium salts to provoke diureses. This procedure is not without hazard as one serious complication may be cerebral edema with coma and ultimate loss of function of the higher centers as occurred in a patient recently brought to my attention. I believe there exist equally effective methods for routine delivery of edema with considerable loss hazard.

All discussors have brought up the question of hormone etiology in this disease. It is

true that some manifestations of the illness suggest adrenal insufficiency which might be seized upon by some as the indication for corticotropin therapy. But there also have been described thyroid disturbances and some have advocated treatment with testosterone. The studies on anti-diuretic substance in the blood and urine suggests a pituitary disturbance which is likewise suggested to me by some of the disorders in nitrogen metabolism seen in this disease. Onset of the illness may be sudden and recovery equally abrupt. Response to parathormone and pitressin in proper dosage is diuresis as with corticotropin. If a hormonal etiology be the correct one, it would appear reasonable to me that the primary disturbance might be considered to reside in the pituitary.

The fact that each of the above described hormonal disturbances may be absent in any one patient during vigorous phases of the disease when the total illness is slightly abated, if at all, compels me in part to this selection. The final answer will, I am sure, emerge eventually from the careful and extensive work which is being done now in various clinics, and until all the evidence is in, however attractive a hormonal or an antibody or a nutritional deficiency explanation may appear to a person, we must keep our minds open and alert and our procedures and approach flexible so that all measures of aid to the patient will be used and properly so.

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SURGICAL METHODS AND RESULTS IN THE MANAGEMENT OF INTRACTABLE ESOPHAGEAL ACHALASIA*

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Achalasia, megaesophagus, cardiospasm, and idiopathic dilatation of the esophagus are the more common terms applied to a condition in which the cardiac sphincter does not relax effectively during deglutition. This functional disturbance may remain sub-clinical in many instances. Patients learn to adjust their eating habits and get along surprisingly well; yet, most cases seek medical aid sooner or later because of difficulty in swallowing. The results of conservative therapy are usually gratifying. Surgical treatment is required in a small but significant percentage of patients when dilatations, psychotherapy, antispasmodics and special diets fail to bring relief. It is the purpose of this paper to discuss the surgical methods and their results with special reference to esophagostomy and esophagocardiomyotomy in a personal, well-followed series.

PATHOLOGIC-PHYSIOLOGY

Unfortunately, too little is understood of the pathologic-physiology involved. The condition may be the result of incoordination between the nerve supply of the esophageal wall and the cardioesophageal junction. Hurst advanced the theory that relaxation did not occur when the peristaltic movement from above reached the lowermost end of the esophagus and therefore the obstruction to the passage of contents was not due to spasm. Poppel in a recent extensive study of esophageal motility concluded that a disturbed peristalsis or even total motor paralysis may be present and that the entire esophagus may

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be involved in the functional derangement rather than the lowermost end as suggested by many.

Esophageal peristalsis is dependent upon the nerve plexus on the surface of the organ, and movements do not occur when the nerve supply is removed. Each primary peristaltic wave is preceded by a wave of inhibition (law of the intestine) so that the muscularis is relaxed just prior to the on-coming wave. The primary peristaltic wave begins with a contraction of the pharynx; similar secondary waves, stimulated by esophageal distention, arise at the level of the aortic arch in patients in whom the primary wave fails to carry the bolus of food. In achalasia the primary wave stops above the level of the aortic arch and thus the esophageal content may regurgitate to the cricopharyngeus muscle. No secondary waves are seen. Small purposeless, segmental contractions do occur, but they are ineffective in propulsion.

The cardiac sphincter is not a definite anatomical muscle but rather the continuity of esophageal and gastric muscularis. A pressure of 5-7 mm. of water from above will normally cause the sphincter to open, whereas 50 mm. of water pressure are required from the cardiac side. Considerably greater pressures fail to bring about relaxation in achalasia.

Stimulation of the normal pharynx results in relaxation of the cardia. Absence of the gag reflex or pharyngeal anesthesia, usually due to functional derangement of the medullary centers of the ninth and tenth cranial nerves, may be associated with spasm of the cardia. Vagotomy in animals causes increased tone of the cardiac sphincter and dilatation of the esophagus. In humans, stimulation of the vagus nerve causes cardiospasm in some persons and relaxation in others which suggests that the nerve carries both motor and inhibitory fibers to the cardia. Knight has demonstrated that the cardiospasm picture in the vagotomized animal can be prevented by a sympathectomy; however, Mitchell, after a careful anatomical study, concluded that complete sympathetic denervation of the cardia requires a much more extensive operation than is practical in the human patient. Following the operation for hypertension

with complete sympathetic denervation, no definite evidence of change in esophageal function was noted by Grimson. Ochsner and DeBakey concluded that their experience with sympathectomy for achalasia was unsatisfactory. No case of achalasia has resulted from vagotomy as practiced by some surgeons for duodenal ulcer, yet recent studies suggest increased sphincter tone in some cases.

Whether the usual mechanism of closure of the sphincter is related to gastric acidity, to intragastric pressure or filling, or to some other factor is unknown. A strong stimulation of the abdominal viscera experimentally induces reflex cardiospasm through sympathetic afferent pathways. Similar spasm may be invoked by intrinsic pathology such as esophagitis, foreign body, diverticula, carcinoma, peptic ulcer and trauma. Possible extrinsic stimuli, caused by disease elsewhere in the gastrointestinal tract, are most notably, peptic ulcer in the stomach, or duodenum, and disease in the biliary tree.

The functional narrowing of the cardio-esophageal junction is the usual anatomic change, followed by gradual lengthening and dilatation of the proximal esophagus, especially to the right side, for there the expanding organ meets the least resistance in the posterior mediastinum. Various gross appearances probably represent different degrees in the course of the disease. The fusiform type may progress to the widened flask shape. A sigmoidal configuration with lengthening and redundancy is indicative of long standing achalasia.

The esophageal muscularis is often thickened above the narrowed segment, possibly on a work hypertrophy or inflammatory basis. At operation no sign of adhesions is seen and gross evidence of inflammation or constricting agents in the hiatal area are absent. Extrinsic pressure by the diaphragm, by adjacent organs or by a vascular ring does not occur.

Stagnation of food and occasionally repeated dilatations may lead to varying degrees of inflammatory change with superficial or deep ulceration, even perforation. The resulting granulation tissue may bleed profusely. Because of the increased intraesophageal pressure due to the ever present liquid food

column and in part to straining efforts, it is not rare to see a pulsion-type diverticulum develop. Achalasia patients, when in the recumbant position, and especially when asleep, are in constant danger of regurgitation and aspiration pneumonia. Pleural effusion, lung abscess and bronchiectasis may result. In the intractable patient chronic semi-starvation soon produces severe nutritional deficiencies, including avitaminosis, particularly of the water soluble group.

Pathologic changes in or an absence of the myenteric plexus of Auerbach have been reported in a number of cases, but whether or not these changes are primary or secondary remains a question. Similar myenteric nervous changes are noted in Hirschprung's disease or megacolon, and indeed, both concomitant megacolon and esophageal achalasia have been recorded, suggesting a common, possibly congenital, origin. Plummer-Vincent syndrome is another example of achalasia where the inferior constrictor of the pharynx is involved in anemic, middle aged women.

SIGNS AND SYMPTOMS

The signs and symptoms of achalasia of the esophagus are chiefly dysphagia, regurgitation and substernal discomfort after meals. Warm and liquid foods are better tolerated than cold and solid ones. Excessive amounts of water are usually consumed in an attempt to literally wash the food down. Many patients develop an almost voluntary control of the esophagus in that they learn to regurgitate the gullet content at will to obtain relief from postprandial discomfort. With the intractable group of patients weight loss and anemia are almost universal.

Among the exciting factors already mentioned, psychic trauma cholelithiasis, peptic ulcer, and pregnancy existed in four instances in our series. Males outnumbered the females, yet others have shown a preponderance of females. Three patients were negroes. In this series the onset of symptoms began in the third or fourth decade of life with the exception of one case whose symptoms dated back to early childhood.

TREATMENT

The majority of patients with achalasia, unaccompanied by extreme dilatation and

stasis, respond satisfactorily to conservative therapy which consists of a bland diet, skillful advice and suggestion on the part of the physician, amyl nitrite, and bougie dilations. Because of intractability to medical therapy and instrumentation, ten to fifteen percent of these patients seek surgical relief. According to Maingot, surgery is indicated as follows: 1) When owing to the great size and sagging of the flask-shaped esophagus, dilatation under direct vision is a hazardous undertaking or is not feasible; 2) When the patient has failed to respond to one or more courses of treatment with a hydrostatic bougie; 3) In infancy and childhood as young patients cooperate poorly and frequently do not respond to instrumentation, whereas operative treatment is strikingly successful; 4) In all those cases where the diagnosis is in doubt because of the possibility of tumor in the cardia or lower end of the esophagus.

Surgical procedures designed to enlarge the cardio-esophageal junction are not new. Using the transabdominal approach, Mikulicz performed dilations as early as 1900 through a gastrotomy at first, and later by invaginating the anterior gastric wall through the esophageal orifice. Wendel in 1910 incised the narrowed segment, the adjacent cardia and closed the opening transversely. This method is recommended by Sweet, and is referred to as cardioplasty. Girard in 1915 modified the procedure by leaving the mucosa intact. Heller proposed esophagocardiomyotomy in 1913, advocating both an anterior and a posterior myotomy incision. The use of the single anterior incision only, has been popularized by Maingot and Garin.

The original Heyrovsky esophagogastrostomy, a side to side anastomosis between the cardia and the esophagus, was soon modified by Grondahl after the method of the Finney pyloroplasty because of the awkward spur at the gastroesophageal orifice. Complete resection of the lower esophagus and cardia was advocated by Rumpel and Pribram. With the acidity factor in mind Wangenstein has suggested wider resection of the gastric segment. The surgical procedure most widely used in this country during the past decade has been the Grondahl esophagogastrostomy, while the modified Heller operation

or esophagocardiomyotomy has been the choice in Britain.

RESULTS

In reviewing the literature to assess the results of these methods of surgical treatment a great deal of confusion has arisen. Many of the patients were inadequately followed. Early attempts at esophageal surgery were accompanied by a high mortality, while at the present time these procedures are rarely followed by death. Recent advances in preoperative preparation, chemotherapy, antibiotics, anesthesia, and blood replacement have changed the overall picture and they make for an unfair comparison.

There are too few series in the literature where the same group has tried and followed two or more different techniques, to allow an unbiased opinion. Asymptomatic post-operative patients are important in evaluating results, but this is subjective evidence. Cases should be followed for at least six months, preferably two years or more. Follow-up studies should ideally include periodic barium X-ray studies and where possible, esophagoscopy. If a patient has a return of symptoms or if he requires further dilatations after surgery, he should be classified with the unsatisfactory group, even though he is improved by the added instrumentation. Similarly, if a patient requires further related surgery he should also be listed as unsatisfactory. With these thoughts in mind several of the more recent series showing experience with one or more of the techniques are tabulated in Table 2.

Both Womack and Wangenstein have had considerable experience with the resection technique in achalasia. Although we have not employed this procedure, we wish in retrospect that it had been used in one case of the sigmoidal configuration, associated with a high gastric acidity and a duodenal ulcer. This patient and two others, who were operated upon by the Grondahl esophagogastrostomy method, have returned with recurrent symptoms and have in subsequent years required further dilatations. One case required further extensive surgery which was performed elsewhere. All of the nine cases with the Heller operation have remained free of symptoms to date, although one was read-

mitted because of hematemesis, a continuous complaint for more than 20 years. This 58 year old colored male had been admitted two years before with complaints of difficulty with swallowing, shortness of breath, a twelve pound weight loss, bloody vomiting and pain after meals. Twenty-five years before this admission he had been treated medically for a peptic ulcer. Eight years previously he had been X-rayed for the cause of hematemesis and the severe degree of achalasia was discovered. Conservative therapy, including dilatations, had failed to bring relief. Esophagoscopy revealed severe inflammation with the presence of bleeding granulation tissue. It would appear from this case that the Heller operation was successful in ameliorating the symptoms but it failed to improve the long standing esophagitis. Further surgery directed at lowering the gastric acidity is not being considered at the present time, because the patient responded so well to an ulcer program and because his total gastric acidity is less than 20 clinical units.

DISCUSSION

An evaluation of two or more related surgical procedures with follow-up studies by the same surgeon, esophagologist, radiologist and internist would appear valuable. A sincere interest in this problem has been rewarded by the fourteen patients with intractable achalasia referred to us during the past seven years and it has afforded the unusual opportunity of comparing the Grondahl and Heller operations first hand in a significant number of cases. That these two groups are reasonably comparable as to age and duration of disease is shown in Table 3. All patients in this series were studied before surgery by the esophagoscopist, both before and after surgery by the radiologist. Whenever possible a close contact has been kept between the surgeon, the physician and the patient. Although on occasion this has been difficult as in a case from the Dominican Republic, yet we hear from him twice a year and recently have received X-ray films representing a two year follow-up.

Like Maingot, we prefer the transabdominal approach, usually through a high midline incision; however, on several occasions the thoracic or combined route has been employed in our series. Even though the

transthoracic exposure has many desirable features, it is unnecessary in most instances.

The immediate results of esophagogastrostomy are gratifying, but unfortunately the late results are occasionally disappointing. A new type of dysphagia develops due to kinking at the cardioesophageal junction or contraction at the stoma (Barrett & Franklin). It was interesting to observe that in the three cases with poor results in our series tested by esophagogastrostomy the largest bougie or dilator would easily pass into the stomach. This suggests a functional basis rather than an organic stricture as the cause of failure. Complete interruption of the smooth muscle as practiced in the Heller operation should, therefore, be followed by a lower incidence of functional contraction than those procedures which restore complete encirclement by the muscularis layers.

The most serious cause of trouble, according to Barrett and Franklin, is the postoperative occurrence of peptic esophagitis which may follow any procedure that destroys the normal architecture in the region of the sphincter. The acute angle at which the esophagus joins the stomach has been pointed out as an important factor in preventing regurgitation into the esophagus. This relationship is least disturbed by the Heller operation. Our postoperative X-ray studies in the recumbent position have shown that reflux barium passes upward into the esophagus with the esophagogastrostomy technic, whereas little if any is found to regurgitate with the esophagocardiomyotomy operation.

In summary then, a trial of dilatations and medical therapy is indicated in view of the good results obtained in the majority of cases. Associated visceral pathology may be found to be an aggravating influence in a surprising number of cases. Surgery should be reserved for those patients who do not respond to conservative treatment and the small group in whom malignancy cannot be ruled out. Our experience with fourteen patients with intractable achalasia, treated either by esophagogastrostomy or by esophagocardiomyotomy, has clearly demonstrated to us that the late results with the latter technic are superior.

DISCUSSION

DR. HAROLD S. RAFAL, (WILMINGTON):

We are indebted to the speaker for his excellent presentation. Especially valuable is the careful analysis and comparison of results of the two most popular surgical techniques applied to the treatment of advanced achalasia. As he pointed out the data here presented has been accumulated by one team and as such is especially valuable.

In order to discuss this paper in the light of local experience I have been privileged to draw on the experience of other surgeons other than myself. I am indebted for their gracious permission to consult the records of their cases. Though I have heard of at least six cases I have had written evidence of the distant post-operative course in only three. However, the verbal and somewhat vague reports of the remaining three are very similar to the others.

All patients subjected to definitive surgery had esophago-gastrostomy. There were no hospital deaths. All were relieved of dysphagia and vomiting. There were no significant post-operative complications. All but one were done through the trans-thoracic route. None required further surgery for achalasia. All these patients were satisfied with the results of surgery. Of the three patients for whom there were written records two lost weight. These, however, were obese to begin with and the main indication for surgery in one was the necessity for dilatations about once weekly and in the other for severe pain with a greatly dilated esophagus. The other patient had a dramatic weight gain of about thirty pounds.

It requires more than the casual question "How do you feel?" to elicit the true picture in some of these cases. Relief of dysphagia makes them so grateful that they do not realize that they are not as well as they think.

All three carefully followed patients have developed ulcer syndromes since operation, relieved by alkalis, diet, and in one Banthine. All three have had demonstrable anastomotic ulcers. All three suffer from acid regurgitation on bending over. One has mild heartburn relieved by simple measures. One, two years after surgery, required a formal ulcer regime for relief of epigastric discomfort and heart-

burn. One had rather severe melena from slow bleeding from his anastomotic ulcer.

All in all, we may summarize by saying that the patients were much more satisfied with the results of their operation than were their surgeons.

The evidence presented by the speaker strongly suggests that esophago-cardiomyotomy has definite advantages over esophago-gastrostomy. Since local experience with esophago-gastrostomy has been unsatisfactory I have decided to try esophago-cardiomyotomy on the next case. It appears that the latter has the additional advantage of being technically simpler although great care must be taken not to pierce the mucosa. Also the mediastinum, upper abdomen, and pleura are not exposed to contamination.

A colleague has suggested a maneuver which, theoretically at least, should be helpful in esophago-cardiomyotomy. If a tube of Miller-Abbott type were passed to the cardia and inflated, it would serve as a darn egg against which to incise the muscularis. After incision of the muscularis, injection of dye through the open lumen of the tube would reveal even minute perforations.

Before closing, I would like to mention two other cases. A 77 year old woman, weighing 73 pounds, was admitted with marked fibrosis already present. A preliminary Jane-way gastrostomy was performed and the esophago-gastrostomy four months later after her state of nutrition had been restored to normal. I have no written detailed record of her subsequent course but I have been told that she did "alright" (quite). Patients should be persuaded, if possible, to accept surgery before reaching such a precarious state.

One other case had emergency jejunostomy, under local anesthesia, for feeding purposes. This proved of no avail and he died several days later. This case is a grim reminder of our obligation to treat patients before they are moribund.

In conclusion, I want to thank the speaker for his most helpful and enlightening presentation.

DR. W. M. PIERSON, (Wilmington): The treatment of achalasia has become revolutionized in the past two years. Not too long

ago it was looked upon as a sort of "No-man's Land."

As pointed out by the speakers, there are various reasons for that, including anesthesia, preoperative preparation, chemotherapy, antibiotics, and so forth, in addition to general improvement in technique. The role of incision versus anastomosis has also reversed itself, in that where a very few years ago anastomosis might have taken a leading role, it now has a minor one. Despite the enthusiastic reports of anastomosis of pediatricians in treating achalasia, the fact remained that the intractable cases treated by dilatation was a failure and so recognized—and it has always been the hope that surgery would be developed to take care of these cases. Esophago-gastrostomy is, however, indicated in all cases of obstruction of the esophagus and in these cases even of intractable achalasia, many are determined by X-ray. It is necessary to rule out the presence of organic disease, such as carcinoma or ulcer.

I would like to add one more thing. I like the new term that Dr. Davis gave you on achalasia, in coining the terminal segment of the word "esophagus" *phagosis*: that seems to fit the picture pretty well.

There is still considerable confusion as to the pathology that is found at operation, and I was very much amazed to hear that Wagenstein and Pilsner and several others had divergent opinion on that score. There is actually no pathology found other than narrowing of the lower end of the esophagus. The tissue has the same structure, cardioesophageal orifice, unless there is a peptic esophagitis present. Then a fibrosis occurs. In the true cardiospasm as I have seen it there is no change, other than the change in the circular muscles at the esophageal junction. The wall is greatly thickened, of course.

Of course, there is at present a considerable divergence of opinion as to cause and treatment. The cause may very well be a paralysis of the entire esophageal wall.

A great deal has been said and written in the past about some physiological disturbances at the cardio-esophageal junction.

Now, as to treatment, there have been many different procedures employed. We, as Dr. Davis showed, were at first enthusiastic about

esophagogastrostomy; as we followed the cases through, however, there were recurrences of symptoms, bleeding and pain and, much to our surprise in several instances it appeared as though obstruction had recurred, that is, mechanical obstruction had recurred. It was a matter of the size. We therefore were anxious to try another procedure. Esophagocardiomyotomy is an easy procedure. It is being done transabdominally. It is a procedure that is very similar to the Ramstedt operation for pyloric stenosis, and one must be careful not to puncture the mucosa. Yet, if that does occur, a small, fine stitch may be employed for closure without danger. Now there are more and more clinics reporting favorably on this Heller procedure, or the "modified Heller procedure" as we call it. Now I believe it is probably the operation of choice.

There are an awful lot of these patients that do not require surgery, and Dr. Pierson would be able to care for probably 90 per cent of them with dilatation and continued observation. So that we do not recommend, of course, operation in all cases; only the group of patients that don't respond to the dilatation over a period of time and who don't maintain good health.

Dr. DAVIS: I would just like to point out again that the mortality in this group shown on the slide, of 114 cases, was less than 1%. But in the group that we handled, those with intractable achalasia, two of the cases had had a history of perforation from bougie dilatation. I think in South America there was a report recently—and, incidentally, achalasia of the esophagus is extremely common down there—they are now doing surgery, or advocating surgery, in San Palos, in all cases because of the number of cases that have had complications from endoscopy even in the most expert hands. The two patients in our experience had the same results from endoscopy. I think the endoscopists would admit that this must always be done by someone extremely experienced, and even so, there is a certain inherent danger.

Dr. Wangenstein has recently reported in *Annals Of Surgery*, the last issue, his experience, and has come out for his operation of re-

section of the lower esophagus and most of the stomach, and for the Heller operation.

On the question of fibrosis that I think was brought up, that can be confirmed by compressing the stomach after the operation, in which case it will balloon out if it has not been perforated. If there is a perforation and it is repaired by a silk suture, the area should be drained. We have not seen too much of that, but I think possibly one of the causes of that could be that many of these patients have undergone a course of dilatation with stretching, and perhaps there was a little tearing of the musculature, and that fibrosis probably could be secondary to the instrumentation, and, after all, successful instrumentation depends on stretching those muscles down there, so I think the fibrosis mentioned could be as a result of dilatations.

I want to thank all the discussers for their discussion and the opportunity of coming down here.

THE ROLE OF THE GENERAL PRACTITIONER IN COUNSELLING BEFORE AND AFTER MARRIAGE*

O. SPURGEON ENGLISH, M. D.,**
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I was pleased that your society has seen fit to have some discussion of counselling before marriage; that is, presumably, counselling for the "happy" marriage.

A happy marriage is a very definite therapeutic measure. Perhaps, better stated, it is a very important phase of preventive medicine. Why? Because, the individual draws his first strength from his own immediate family. The more wisely a child is fed, is trained and guided and taught, the more likely he is to grow into a happy creative person. And it is the serene and happy mother and the strong and wise father who together can best accomplish these things.

The child learns a great deal about harmony and cooperation from his family, and as he learns he gains a certain strength to go out into life. In the late teens, when he must leave home, he continues to need strength and help; not only to keep up his

*Read before the Medical Society of Delaware, Wilmington, October 10, 1951.

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sense of well-being, get his work done, be a good citizen, but to keep his body physiologically in order.

If it is true that nearly one-third to one-half of the problems that come to the physician these days are of emotional origin, or there is an emotional factor in them, then marriage counselling, to maintain a happy marriage, is a continuation of the strengthening effects of the home.

For marriage constitutes the second home. It is supposed to bring security and happiness to both man and woman, and help to keep them healthy. Therefore, if marriages are not successful, we cannot have happy and healthy people.

Can an unhappy marriage make people sick? Yes, I think it can. I think it definitely makes people emotionally ill, and secondarily, physically sick, with those kinds of illnesses that we call psychosomatic.

Someone has asked if an individual could go "crazy" living ten years with the wrong woman or wrong man. I think, as I look back over my practice, the answer would be "Yes; occasionally." Ten years of very unhappy living with a wrong person, in a vulnerable individual, could actually cause sickness, and does produce a great many psychosomatic disorders. So, it seems important that the general practitioner does his share in counselling people and practice this kind of preventive medicine.

Now, the place for counselling for the general practitioner generally, is before marriage, when people come for blood tests or physical checkups. These people constitute a fairly large number—a much larger number than those who come primarily to say, "I am going to be married and I wish you would talk to me about how I can make a good and harmonious marriage." I believe that many of these patients who come for blood tests or for physical examinations, are hoping, or looking for, the doctor to say something wise and helpful about making a good marriage. And there is much for the physician to say!

I am not contending that people are not coming in increasing numbers to the doctor for pre-marital counselling. They are. But I think if we only teach those who ask for pre-marital counselling, we are missing a great

opportunity. However, unless the general practitioner is aware of a certain amount of constraint in his patient and is alert to this particular phase of medical practice, his patient will not ask the questions he thought of asking, or he wants to ask, but will take his blood test and physical examination and be on his way, his questions and desire for information unanswered.

Of course, there comes the matter of "time." One of the requisites for being a good marriage counsellor is to have enough time. And, I suppose nobody does. But, one just has to find time, these days, for the things he is interested in. Therefore, I feel that the physician who wants to be a good marriage counsellor must find the time to talk to the patient who comes for a blood test or physical examination. And, furthermore he should have a prepared "approach" to it.

There are several ways in which this can be done. For instance, if a patient is in your office for a physical examination, you might ask him some questions about himself. A question about how long he has been engaged, pretty quickly leads to questions like this: "Do you have any misgivings as to whether your marriage is going to be a happy one?" "Have you ever thought about the figures of divorce and separation, and wondered whether you will have any difficulty in making your marriage a happy one?" Or, "Do you feel sure you know what goes into a happy marriage?"

This often provides an opening for the individual who has questions or misgivings—and, if he has not already given it thought, he may immediately ask, "I don't know, Doctor; what do you have in mind?"

That, of course, brings up the question of what are the "norms" in marriage counselling? I believe there are a few precepts that make up a happy marriage that the general practitioner should have in mind when counselling. They might be as follows:

(1) Every individual should realize both before his marriage, and during it, that he must give more than fifty per cent of the good will, love, understanding and appreciation that goes into a happy marriage. If he does not; if he is not prepared to give more than fifty per cent, there will be no reservoir

of good will, of good memories or of good thinking about his partner. Therefore, the dictum "Marriage is a fifty-fifty business," is a good one. If everyone abided by it there would be many more happy marriages. But remember, I said, that each person must do more than fifty per cent, in order for there to be a "reservoir" — because a reserve is very important. For instance, suppose a wife or husband has a bad day. Then, one of them has to come forth and give more than fifty per cent of the tolerance, understanding, love and appreciation. Now, feeling bad can last for more than a day. People often have low periods of a week, two weeks or even a month. One of the partners must be willing to give even eighty per cent or ninety per cent, and be extraordinarily understanding rather than complaining and responding by being disagreeable and unhappy.

(2) Parenthood, which is usually an eventuality, should be at least a fifty-fifty proposition too. Children do come along, and young people preparing for marriage, should be taught that parenthood is a difficult job made easier if both are willing to share responsibility in raising their children.

In unhappy marriages it is usually found that the wife does everything for the children while the husband feels there is no responsibility on his part, except to provide money. He says, "I make the money; you take care of the kids. I work hard—I don't want to be bothered—I want to have the children quiet and out of sight, and out of mind." He leaves all the decisions to his wife. When she asks, what to do about school, or clothes he says, "Do what you like; I wish you wouldn't bother me about those things." His wife becomes overburdened and unhappy and the marriage comes under a strain. She is annoyed with her husband and becomes complaining about it and they just don't get together. Sharing the burden would make it easier, and if life isn't too hard it is apt to be happier.

(3) Sexual adjustment should be thought about and talked about before going into marriage. And a physician can do a great deal about helping a couple through this difficult phase.

I was standing one time before a co-ed

group of college students in a large auditorium. We were talking about happy marriages and I said, "You know, only a few of you in this room will have an excellent sexual adjustment. You should be happy if you have a good sexual adjustment. And, if you are going to have it, it will come about this way — you, as the husband, will be patient and understanding and restrain yourself in your sexual desires; and you, as the wife, will try to be understanding of your husband and step up your sexual activity. Then you may approach a good sexual relationship, with each trying to do something constructive to meet the make-up of the other. But any young couple who enters into marriage not knowing a great many things about the opposite sex is going to have a great strain put upon their sexual adjustment. It is going to be bad. Both parties are going to be disappointed in it."

So, a couple facing marriage need to be helped with some discussion of sexual matters, and to have some of these things pointed out to them in an authoritative manner by a physician. It prevents disillusion and it helps them to be patient and work at getting a healthful adjustment.

(4) Another important point to make in pre-marital counselling is that a happy marriage does not take place spontaneously. All happy marriages have to be worked out. The man thinks, "Gee, I am marrying a lovely girl; she is going to make me happy from now till doomsday." The girl thinks, "I am marrying a wonderful fellow; I am going to be the happiest girl in the whole world." A week or two passes and already there is disillusionment. Why?

Because people must be willing to adjust as they go along and not attempt, every day, to draw complete happiness from the marriage. After all, a marriage is no better than the two people who are going into it, and no one is perfect.

These then are a few of the concepts that are important to bring up and discuss—to make sure that those going into marriage understand them and think about them.

It is very important for the general practitioner to understand and think about marriage counselling, because a great many peo-

ple would rather be counselled by their own doctor than go to a psychiatrist. Every psychiatrist does counselling but it might well be done by the general practitioner, if he takes interest and time to equip himself. Here is the opportunity to give your patients the advice that they want. And they would far rather have it come from you. They know you, and respect you. In some ways you have a better reputation than the psychiatrists have. You are "good and wholesome,"—you are "the family doctor." You are not "one of those psychiatrists that go around looking for complexes and accusing people of various and sundry things,"—as so often psychiatrists are accused of doing.

Perhaps many of you have not, up to this moment, taken too much interest in marriage counselling and would like some suggestions as to how to become prepared. There are a few books that serve well as an introduction. A physician doing marriage counselling should have read Dr. Kinsey's book "Sexual Behavior in the Human Male." W. B. Saunders Co., publishers. A condensation called "About the Kinsey Report" published as a Signet Special is available wherever books are sold or on the newsstand. The first chapter of that book has the best summary I know of some of the important factors that Kinsey discovered. It is a sort of "short course" on Kinsey's findings.

Another book to read and which you will recommend frequently, is, "the Happy Family," by John Levy and Ruth Monroe, published by Knopf. It offers constructive ideas to anyone looking for solutions or answers to what a happy marriage might be. "The Successful Marriage," edited by Fishbein and Burgess and published by Doubleday, is another helpful book. Clifford Adams' "How to Pick a Mate"—published by Dutton, is also very good.

A book for older married couples that I think makes very good reading is called "Aging Successfully," by George Lawton, published by Columbia University Press. It is effective for those whose viewpoint needs broadening. For unhappy marriages often come from a narrow viewpoint. A limited mental horizon and too much self-centeredness often adds to marital unhappiness, par-

ticularly in middle age. The book "Aging Successfully" might be good for those reaching middle life.

In marriage counselling a physician must have the ability to talk to people about love—because, of course, one of the basic reasons for marriage failure is that the people concerned have ceased to love each other. For instance, a woman now about forty-two, had married a man she said was a fine man, but the marriage had come to such a point that she was very unhappy, did not sleep well, was tense and depressed. She was not thinking of divorce at all, but was defeated and unhappy about the way the marriage was going. She had come to see a lot of things about her husband, she said, that were wrong. For instance, she wanted to go to one of the evening courses in one of the local high schools, to broaden her outlook and she wanted her husband to go with her. He refused. Now, he may have been a foolish man, because, not only should he have done it for his own edification, but, he should have realized that if he did not meet his wife half-way in some of the things she wanted he would have an unhappy wife and an unhappy marriage. If he had put even one-fourth of his time into making his wife happy that he put into making his business successful, he might have had a happy home and his wife would not have had to seek her doctor's counsel.

However, we found this to be true about the woman. She had come to the point where her mind was almost completely involved with the things her husband was *not* doing for her, and she had lost sight completely of the things he *was* doing for her. She could no longer be positive, and said she was "out of love." The truth was she no longer loved her husband and her love had turned to hate through frustration and disappointment. While she kept insisting they still were in love with each other, in reality they were not. She was very much dissatisfied with him. The situation needed a great deal of understanding about love to correct it. The patient had to be able to become more positive and see the good things about her husband. She needed to reach down within herself and bring out more of love and reject her hate and dissatisfaction. Further, she had to learn

to help her husband share his life with her and do some things they both would enjoy. For when a husband and wife become dissatisfied, they can no longer talk to each other.

Marriage counselling is always much easier if you can get the parties together and solicit cooperation between them. Unhappy marriages will rarely correct themselves. They need an umpire, a referee, someone to constructively enter into the picture and see what good is left of the marriage and help put it back together. This is an important function for the marriage counsellor and is one of the reasons why he must have a liking for people, an ability to see their better sides, and be able to urge them to work together to try to reconstruct some of the love they presumably had when they started.

It is, in reality, an educational process and a great many general practitioners fail to recognize this. Education plays a relatively small part in their active practice. If the general practitioner is to do more marriage counselling and help people in this way, he will have to take on an "educational" role. He must orientate himself in the knowledge of what makes a happy marriage. He must know how to discuss sexual adjustment, how to deal with ideas that can help these limited people to widen their horizon. And above all, he should cultivate within himself a kind of an "approach" — a fund of information, with which to stimulate those seeking help to see new possibilities in a marriage that has turned from love to hate.

Marriage is an institution created to foster love. And how often love goes out of marriage because of unnecessary frustration and disappointment! The wise counsellor knows this and helps his patients to see the reality of what marriage is going to be, and to avoid those disillusionments. After marriage, when disillusionment and anger have caused hurt then the marriage counsellor must step in as the arbitrator and peacemaker. He can revive patience, tolerance, love and understanding and teach the importance of mutual approval.

One more point needs emphasis. There is no use in a husband or wife disapproving, or trying to change his partner by disapproval. This constant saying, "I don't like what you

do. You are a terrible person. Why don't you be better," is poor technique. Constant complaint rarely if ever changes a child or a husband, or a wife. It is a bad approach that accomplishes nothing. A husband or wife can be shown how to see the better side of his spouse, become positive in his approach and work toward putting himself in a position where he can appeal to, or request his partner, to change his or her ways. For instance, take the case of the 42-year-old woman who was rather an unhappy person. The marriage counsellor had to help her become, in her husband's eye, a better and a more lovable person to live with. After she had created that impression, she could then say to him, "I'm sure now that you love me. Will you do something to make me happy? So that we can share something together, will you go with me to the evening classes? It will make me happier to do this with you." I venture to say the man was happy to do it.

DISCUSSION

DR. VERA STEVENS-YOUNG: (Wilming-ton): Dr. English is to be congratulated on his excellent presentation of a very timely subject. I feel sure the psychiatric physician must be deeply impressed with the importance of a satisfactory marital adjustment. In the home that is well adjusted, in so far as a satisfactory marital relationship is concerned, your children are being nurtured in character, in unselfishness and in a sense of responsibility, from infancy. On this broad base of character is built satisfactory marriage.

The responsibility of a trusted physician is of the greatest importance in making himself easily available for questioning by persons, either premaritally or postmaritally.

There is much sexual maladjustment in women, based on many factors. An analysis of these factors may well come within the role of a physician. The time is ripe for the physician to brush off restraint and realize that he must make himself available to persons who need this help.

We are very grateful to you, Dr. English, for having called our attention to this very important subject.

DR. H. T. MCGUIRE (New Castle): I think that it is a tribute to the changing attitude of our thinking, following the very erudite ad-

dress of our retiring President this morning, to have philosophic subjects. And if I might borrow a sentence from your address this morning—that the family unit is the keystone of the arch of our democracy, since a family is in essence the unit around which our communities are built—it follows necessarily that a happy marriage in a well-constructed and integrated relationship is of inestimable value.

The physician and particularly the general practitioner has a very severe responsibility in this problem. Both pre-marital and post-marital counselling is inherent in his practice. There is an appeal for it and a need for it, and in my opinion we have not met the problem with the force and the strength and the attitude that we should, because, as Dr. English has very aptly pointed out, the psychiatrists are often shunned and for reasons of which the psychiatrist is aware, and so are we.

I heard a fellow facetiously remark one time that everybody who is married has a problem. But no problem is going to be solved by not facing it. Persons look at their marriage and what they see they don't like and it nauseates them—they get sick inside and out. Here it is that I think sometimes the physician misses the boat. He has the responsibility of recognizing the religious, the moral and the ethical attitudes of the individual he is counselling.

There is frequently a tendency on the part of the counsellor to project his ideas in conflict with the ideas of the individual who has certain moral, ethical and spiritual values that he cherishes. These should never be in conflict. That is an absolute essential.

With respect to the sexual phases, I think Dr. English will agree that when there is good moral, spiritual and emotional adaptation and integration, that the sexual phase of marriage will eventually integrate itself properly.

And that of course emphasizes another important feature of marriage in that it is not mainly a physical union because of the great percentage of personal relationships in which sexual manifestation and relations are purely coincidental—although morally and ethically and spiritually marriage was intended and is

intended and does provide the means of procreation. One can not deery the importance and necessity of proper intersexual relationship, but it can't begin there; it has to start with the proper emotional, spiritual and moral attitude. Then, with that being true, the sexual phases and understandings will follow. Of course, there again, physical abnormalities and things of that sort should be corrected.

I, as a general practitioner, see the results many times, and I am sure you all do, too, of poorly integrated marriages, poor preparation for marriage, and marriages as an escape from unhappy homes, or marriages as a solution to other problems, and those all to nasty marriages—emotional upheavals that result from such marriages—all these things result in unhappy marriage.

It is indeed timely that a subject of this character should be incorporated in our program, because we all need stimulation in this direction. As recently as last night I saw four people, in my small practice, people who were physically ill because of poorly integrated marriages, and the marriages were begun on a wrong score.

The thing that I think is most important, and a great deal of it was emphasized in our good President's address this morning, is that we get a proper attitude of humility, tolerance and relationship of spiritual values in ourselves, first, because many times the integrators have to be integrated and the projector reprojected before he can pass it on with the proper attitude, because the physician with the wrong attitude in conflict with the patient or the individual he is attempting to counsel will do more harm than good.

And, finally, to sum this up, remember, that we are only a very small and infinitesimal part of the whole scheme of things, but we do have the respect of the people that come to us for advice, and the casual, incorrect, or the assumed pious attitude, or the arrogant, belligerent attitude will do inestimable harm.

We are indebted to you, Dr. English, for a very excellent discussion and I am happy the program committee incorporated such a feature as this on the program.

DR. M. A. TARUMIANZ (Farnhurst): I also enjoyed my friend Dr. English's discussion on a very important matter: counselling, premaritally and postmaritally.

It is a very ridiculous situation throughout the country when you realize that one doesn't go into partnership in business without preparing himself in the field of his endeavor, yet the most important partnership in our life is marriage. How many of our young men and women are prepared to assume the responsibilities of such a partnership?

Maybe the time of the real family physician has passed. Maybe it is over. But I think it is time to rejuvenate the idea of the family physician, who knew all about the children, their positive and negative traits of personality, their make-up, and all such. They could give wholesome advice. No psychiatrist can give an individual who is utterly strange to him within the time of one interview the advice that a family physician could if he knew something about the family origin and the background of the children who have grown and become responsible individuals.

So from my viewpoint, insofar as I see the consequences of maladjustment in marital life, I see very little that we can do to prevent catastrophes of daily life, particularly in the middle age period. It is really sad when a man comes to you who has been married for twenty-some years and has lived with his wife in harmony, good or bad, where he has now reached a point where he can not tolerate the existence of that individual under the same roof with him. That is a serious thing.

Now, we know that evolutionary changes have something to do with that attitude. For the psychiatrist to attempt to bring these two together would require prolonged psychiatric interviews and treatment of both parties. Yet we know, also, that if these men or if that man had been prepared before he entered marital bonds he would not have had the difficulty. He would have known what to expect from such a partnership, and so I would say the lack of such knowledge is the main cause of marital disturbances in older people.

I am of the opinion, and I hope Dr. English will agree with me, that although the premarital physical examinations have some im-

portance and some role to play, that that, in my judgment is not after all as important as pre-marital counselling. I think no one should enter into the bonds of matrimony unless he has a definite understanding of his own personality, of his own make-up, and also to know that he is going to marry someone who also has personality, who is also an entity per se, and not someone whom he can remodel to his liking, but that is what most of the men entering into marital life expect to do—to remould an individual, a personality, an entity, to their liking, forgetting that she also, in her own mind expects to do that very thing. There is a challenge between both of them and the end result is the number of divorcees we have today.

I also agree with Dr. McGuire, that in addition to all our knowledge we should consider that there is a moral and spiritual issue connected with an individual's entering into the marital bond. It would be very wise that there is a consultation between the pastor of the individuals who are attempting to enter into this partnership and the family physician.

The last thing I can say is that there are some types of cases that the general practitioner should not attempt to handle by himself, because of lack of his experience and knowledge. He should not hesitate to refer the case to one who possibly has a little more knowledge and experience in that field.

I think if we do all of this we certainly can prevent many, many unfortunate, sad cases of let's say, alcoholism, divorcee, economic distress, and everything that goes with failure of the individual in marital life.

DR. ENGLISH: I think that the discussants have brought out important points, and I want to thank them, very much. I would just make one more, myself, and that is that extending further the concept that marriage counselling is a very important preventive medical function, I am wondering if physicians could not be one of the sponsors or lend a certain impetus to making this more of a community affair. There should be in every community a place, a forum, where the family could and should be discussed. I think probably a most desirable accomplishment would be to have an educational institution

in the community that would give people a chance to study the family, hear about the family and have speakers to discuss the family. Here, young people could learn something about the family and family life in a perfectly open and free manner, sponsored by education, by religious organizations and by the Medical Society. I am hoping, and I feel fairly sure, that communities are going to and must take this up in order that all young people learn more about this. The need is great because even if physicians do more marriage counselling, we are still not going to be able to meet the needs of all the people. And I think in line with the things said in discussion, many questions might be answered if there was a community organization that dealt with the family, its problems, and functioned all year 'round for anyone who needed help or information to understand more about happy and healthy family living.

FIVE WAYS TO KNOCK OUT TB

EARL UBELL*

New York, N. Y.

Somewhere in a poverty-stricken corner of the world, a child at this instant is coughing his life away with tuberculosis. In an era of advanced medical science, it would seem that his death is a heartlessly unnecessary event. But he will die, as will millions of adults this year and every year.

Even in these relatively wealthy United States, nearly 30,000 children and adults will die of tuberculosis in 1952. At least five per cent of these dead will be children under 15 years of age. The rest will be mostly those in the prime of life looking forward to their most productive years.

TB, regardless of what anybody tells you, is the No. 1 infectious killer in this country.

Yet science knows more about tuberculosis than perhaps any other germ disease. In fact, physicians have successful ways to treat it. But the disease marches grimly on. What then is needed to conquer TB?

There are five weapons which aimed to-

gether at TB can make it a rare disease on earth. A cure is only one of the guns. A cure will not eliminate an infectious disease. Penicillin, which cures syphilis, has not eliminated that disease. These are the guns that should be leveled against TB:

1. The elimination of poverty. Poverty is the ally of tuberculosis. Slum areas are foci for infection. From these centers TB sends out tentacles to other parts of cities where poverty is not a problem. Eliminate poverty, and you are well on the way to the elimination of TB.

2. The development of a superior vaccine. A vaccine is really a "Big Bertha" against an infectious disease. By stimulating the immunity-producing mechanism of the body a vaccine could protect a human being against massive invasions of germs. A good vaccine—coupled with a vaccination program as strong as that for smallpox—would make tuberculosis as rare as pox.

At present the best vaccine is known as BCG—the *Bacillus of Calmette and Guérin*. It is a derivative of TB germs. It does not give protection in every case nor does it protect permanently. Hence it is recommended only for special uses.

3. The development of more effective therapy—of a "cure." This gun is so far the most highly developed. Three approaches to the treatment of TB give victims the best chance to get well that they have had in years. Bed rest, surgery, and the anti-TB drugs are curing more people than ever before. But treatment alone will not rid the nation of TB.

4. A method for uncovering "silent" cases cheaply, easily, and quickly—those early cases with no apparent symptoms as yet. X-ray pictures, which are now being taken by the millions, are so far the best method for discovering cases among the general public. Mass X-rays are trying to uncover some 150,000 persons who may not yet know they have the disease and who with the 250,000 reported cases bring the nation's case load to 400,000. A blood test to aid diagnosis is under investigation.

5. More hospital beds. Perhaps this is the saddest lack of all, because all you need for a hospital is money and people—and the

Help Fight TB



Buy
Christmas Seals

*Science writer, New York Herald Tribune.

nation has plenty of both. The effect of hospital shortages is clear. Many patients who should be hospitalized are left to roam and pass their infection on to others; sometimes leave the hospital before their disease is completely arrested.

There you have them, the five big guns that need to be leveled at tuberculosis. The important thing is to aim them at once and score the bull's-eye that will make TB a rare disease.

Money is needed to carry out the research for a better vaccine, for more effective therapy, and for methods for discovering cases. Money is needed for educating the public to the necessity for new and better hospitals and for the elimination of slums.

Part of the money to carry on these programs is raised each year in the Christmas Seal Sale. The 3,000 associations affiliated with the National Tuberculosis Association raise around \$20,000,000 a year for prevention, control, education, and research programs. Out of its annual budget of approximately \$1,530,000, the national office allocates roughly one-sixth for research purposes.

The Christmas Seal campaign can't raise the money to take care of the patients; it can only hope to raise enough to be able to train the five big guns of TB control on the right targets.

SUSSEX PHYSICIANS' TELEPHONE EXCHANGE

Since August 1, 1952, a physicians' telephone exchange has been in operation by the Sussex County Medical Society. Twenty-two physicians of Sussex County will have their calls taken care of by the three hospitals in the county. Physicians participating will notify the hospital nearest to them when they are away from their office, where they can be located, and the switchboards of the three hospitals in Sussex County will take care of calls for the physicians during their absence. It is hoped that this will improve the service being rendered by the physicians, and an effort will be made to have each town covered

at all times. In case of emergencies, it is planned later to inaugurate an emergency service whereby physicians can be located for emergency calls when the usual family physician is not available. Each doctor participating will insert in the telephone book after his name the information that, if there is no answer to his telephone, the hospital closest to him be called for information regarding his absence and time of return.

The physicians participating are as follows:

Nanticoke Memorial Hospital, Seaford, will take care of calls for—

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Dr. W. P. EllisLaurel
Dr. Charles M. MoyerLaurel
Dr. Arnold H. WilliamsLaurel
Dr. James E. MarvilLaurel
Dr. Robert L. Dickey	.....Laurel
Dr. R. H. Beckert	.....Bridgeville
Dr. John Lynch	.....Seaford
Dr. Leland Fox	.....Seaford
Dr. Ervin Stambaugh	.....Lewes

Milford Memorial Hospital, Milford, will take care of calls for—

Dr. Thomas J. Tobin	.....Milton
Dr. G. M. VanValkenburgh	Georgetown
Dr. Samuel Marshall	.....Milford
Dr. Lawrence Fitchett	.....Milford
Dr. O. A. James	.....Milford
Dr. Kaden Tierney	.....Milford
Dr. James B. HomanMilford

Beebe Hospital, Lewes, will take care of calls for—

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Dr. Daniel Paul, Jr.Georgetown
Dr. Robert KlingelRehoboth
Dr. Ervin StambaughRehoboth
Dr. Virgil HudsonMillsboro
Dr. James Beebe, Jr.Lewes
Dr. James E. MarvilLewes

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WORTH EXPLORING

The success that has attended the Maryland plan for medical care of the medically indigent has attracted national attention. Now from Maryland comes a new approach to the problem of medical care of the lower-income group that may turn out to be worth exploring. Till details are available no opinion can be expressed. The preliminary story, as given in the *Baltimore Sun* of October 27, 1952, follows:

The Baltimore City Medical Society has appointed a committee to study a local phy-

sician's proposal of a way for doctors to scale their fees in accordance with the patient's income.

The physician, Dr. J. Wesley Edell, has worked out the plan for a "medical fee co-operative," to be "organized, regulated and subscribed to by both physicians and patients."

The aims are to make private medical care less burdensome to lower-income groups and to eliminate any possibility of socialized medicine.

The patient's fee would be based on his income and number of dependents.

These two factors would be worked out on a scale or chart—a "discount calculator"—showing the percentage of deduction for each fee at each classification level.

Patients desiring the discount advantage would fill out a financial-statement form obtained from their physician, have it notarized, and send it to the secretary of the co-operative.

He would then receive a membership card stating his classification. The card would be good at the office of any physician member of the co-operative.

The co-operative would be a non-profit organization, with dues of \$5 per year for physician members and \$1 per year for patients. This could defray costs of operation, printing and mailing.

The scope of the plan would include only fees involved in private medical practice — physicians and surgeons.

The co-operative would be set up under the sponsorship and supervision of the Baltimore City Medical Society, and initially the president of the society would appoint representative physicians and laymen as directors.

BOOK REVIEWS

Textbook of Refraction. By Edwin Forbes Tait, M.D., Associate Professor of Ophthalmology, Temple University School of Medicine. Pp. 418, with 93 illustrations. Cloth. Price, \$8.00. Philadelphia: W. B. Saunders Company, 1951.

This book is a practical treatise on clinical refraction, and pre-supposes a considerable knowledge of optics and physiology on the part of the reader. A large part of the book deals with muscle physiology, muscle abnormalities, and orthoptics, possibly beyond the point which might be expected to be found in a textbook of refraction. The material is, on the whole, accurate and covers all phases and methods of practical clinical refraction. The author believes that cycloplegia has a place in refraction, but should be individualized, since he believes that many, if not most, individuals over 35 years of age can be refracted adequately, if not better, without cycloplegia. The arrangements of the chapters, which is calculated to touch on every phase of the subject briefly before getting down to the real fundamentals of refraction, makes for some repetition and increase in the size of the work. The author concludes with an excellent outline of a system of refraction, and methods of examination, which effectively summarizes the preceding material, as well as the individual methods preferred by the author. The book is, in general, well written, the format clear, and the illustrations and tables, in general, well chosen.

The Origin Of Life And The Evolution Of Living Things. By Olan R. Hyndman, M.D., Associate Professor of Neuro-Surgery, University of Colorado. Cloth. Pp. 648. Price, \$8.75. Philosophical Library, New York: 1952.

The author undertakes to present his theory of evolution of life and he postulates that the origin of living substance is on an energy-transformation basis. He suggests a strong belief in the environmental influence on adaptation and the hereditary develop-

ment of form from a microscopic bit of chromatin.

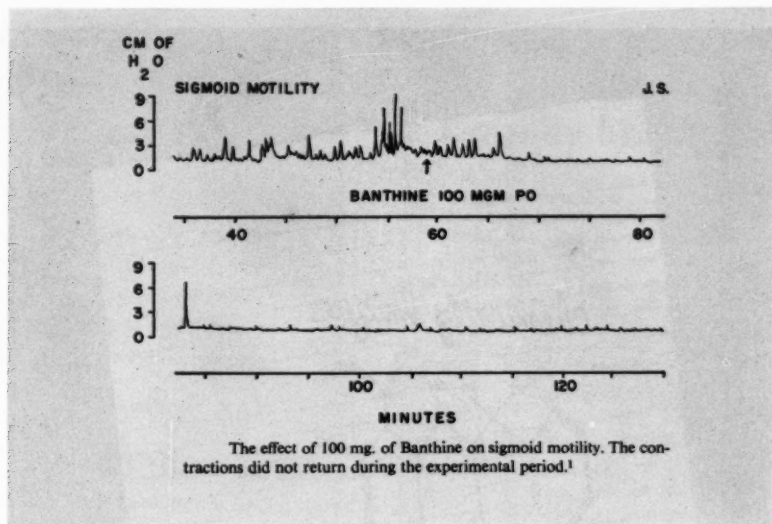
Since the chromatin governs the cell cytoplasm in every detail, any reaction of the latter must, of necessity, stimulate the chromatin. The chromatin responds to maintain integrity of the cytoplasm and differentiates to maintain and perpetuate the integrity of the changing cytoplasm. The chromatin always responds to chemical changes in the cytoplasm.

The centrosome in the nucleus of a cell is composed of an integer or intergers (genes) whose function during the evolution of the cell, becomes delegated to the coordination of cell cleavage only when such a cell has ripened.

The theory of specific environments of origin in respect to parasites and saprophytes is shown to be an integral part of the main theory.

This book minutely reviews the various theories of evolution, the field of genetics, and the knowns and the unknowns related to heredity and embryogenesis. The author philosophizes extensively throughout the text and attempts to prove his theories by presenting a great deal of pertinent historical background. The lengthy explanations and constant repetitions are confusing when one considers the nature of the subject matter which is, at its best, based on imagination, theory, theology, probability, prophesy, and hormones, rather than on scientifically proven objective data. The multiplicity of headings and subheadings within the various sections and chapters of the book adds to the confusion.

This is not a text book on evolution but a presentation of a new theory. It contains a great deal of interesting material which should be found valuable by students of genetics and lovers of philosophical discussions as to the evolution of life and man's purpose in the universe.



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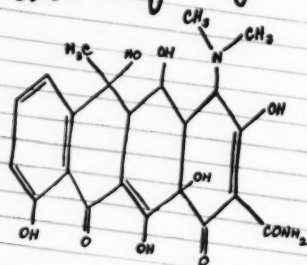


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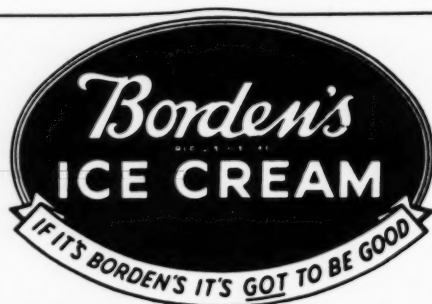
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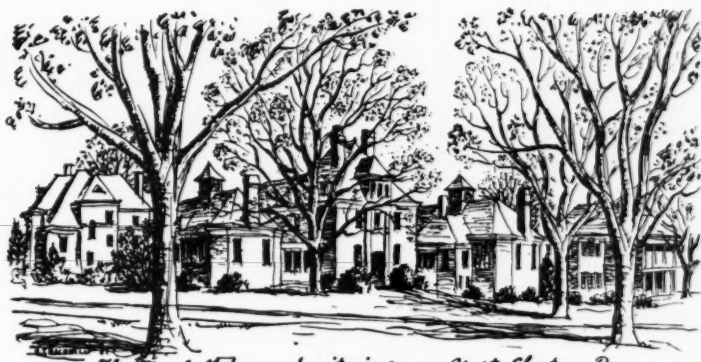
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